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Filing Date: November 10, 1998

Listing of Claims

This listing of claims will replace all prior versions and listings of claims in the application:

In the claims

Claims 1-36 (Canceled)

37. **(Previously presented)** An array composition comprising:

a) a substrate with a surface comprising discrete sites at a density of at least 100 sites per 1 mm^2, wherein said discrete sites are wells; and

b) a population of microspheres randomly distributed on said sites, wherein said population comprises at least a first and a second subpopulation each comprising a different bioactive agent and do not comprise an optical tag.

38. **(Previously presented)** An array composition comprising:

a) a substrate with a surface comprising discrete sites at a density of at least 100 sites per 1 mm^2, wherein said discrete sites are wells; and

b) a population of microspheres randomly distributed on said sites, wherein said population comprises at least a first and a second subpopulation each comprising a different bioactive agent and wherein each subpopulation further comprises a different identifier binding ligand.

39. **(Currently amended)** The[[An]] array according to claim [[37 or]]38, further comprising at least one decoder binding ligand comprising a label.

40. **(Currently amended)** The[[An]] array composition according to claim 37 or 38, wherein said bioactive agents are nucleic acids.

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41. **(Currently amended)** The[[An]] array composition according to claim 40 wherein said nucleic acids are DNA.

42. **(Currently amended)** The[[An]] array composition according to claim 40 wherein said nucleic acids are single stranded nucleic acids.

43. **(Currently amended)** The[[An]] array composition according to claim 40 wherein said nucleic acids are double stranded nucleic acids.

44. **(Currently amended)** The[[An]] array composition according to claim 37 or 38, wherein said bioactive agents are proteins.

45. **(Currently amended)** The[[An]] array composition according to claim 37 or 38, wherein said substrate is a fiber optic bundle.

46. **(Currently amended)** The[[An]] array composition according to claim 37 or 38, wherein said substrate is glass.

47. **(Currently amended)** The[[An]] array composition according to claim 37 or 38, wherein said substrate is plastic.

Claims 48-50. **(Canceled)**

51. **(Previously presented)** An array composition comprising:

   a) a fiber optic substrate with a surface comprising wells at a density of at least 100 sites per 1 mm^2; and

   b) a population of microspheres randomly distributed in said wells, wherein said population comprises at least a first and a second subpopulation each comprising a different bioactive agent and do not comprise an optical tag.

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52. **(Previously presented)** An array composition comprising:

a) a substrate with a surface comprising discrete sites at a density of at least 100 sites per 1 mm^2; and

b) a population of microspheres comprising at least a first and a second subpopulation, wherein said first and said second subpopulations each comprise:

i) a different protein bioactive agent; and

ii) a different nucleic acid identifier binding ligand;

wherein said microspheres are randomly distributed on said sites.

53. **(Currently amended)** The[[An]] array composition according to claim 52, 54 or 55, wherein said substrate is selected from the group consisting of fiber optic bundles, plastic and glass.

54. **(Previously presented)** An array composition comprising:

a) a fiber optic bundle with a surface comprising discrete wells at a density of at least 100 sites per 1 mm^2; and

b) a population of microspheres comprising at least a first and a second subpopulation, wherein said first and said second subpopulations each comprise:

i) a different protein bioactive agent; and

ii) a different nucleic acid identifier binding ligand;

wherein said microspheres are randomly distributed on said sites.

55. **(Previously presented)** A method of making a composition comprising:

a) forming a substrate with a surface comprising discrete sites at a density of at least 100 sites per 1 mm^2; and

b) randomly distributing a population of microspheres on said surface such that individual sites contain microspheres, wherein said population comprises at least a first and second subpopulation, wherein said first and second subpopulations each comprise:

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         i) a different protein bioactive agent; and

         ii) a different nucleic acid identifier binding ligand;

    c) binding a first and second distinct decoder binding ligand to said first and second distinct identifier binding ligand.

56. **(Currently amended)** The array according to claim 52[[, 54 or 58]] or 54, further comprising at least one decoder binding ligand comprising a label.

57. **(Previously presented)** The array according to claim 53, further comprising at least one decoder binding ligand comprising a label.

58. **(Previously presented)** The array composition according to claim 52, 54 or 55, wherein said nucleic acid identifier binding ligands are DNA.

59. **(Previously presented)** The array composition according to claim 52, 54 or 55, wherein said nucleic acid identifier binding ligands are single stranded nucleic acids.

60. **(Previously presented)** The array composition according to claim 53 wherein said substrate is a fiber optic bundle.

61. **(Currently amended)** The[[An]] array composition according to claim 53 wherein said substrate is glass.

62. **(Currently amended)** The[[An]] array composition according to claim 53 wherein said substrate is plastic.

63. **(New)** The array according to Claim 58, further comprising at least one decoder binding ligand comprising a label.